



FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 90

[WP Docket No. 07-100; FCC 23-3; FR ID 126043]

Improving Public Safety Communications in the 4.9 GHz Band

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Federal Communications Commission (FCC) adopts rules establishing a comprehensive and coordinated nationwide approach to managing the 4.9 GHz (4940-4990 MHz) band while retaining its locally controlled, public safety nature. In doing so, the Commission solidifies the band's status as public safety spectrum, while also allowing secondary, non-public safety use as agreed to by public safety licensees through a new leasing model. This Report and Order adopts rules permitting a nationwide Band Manager, which will be selected based on its expertise and connections to the public safety community, to coordinate all operations in the band ensuring that any non-public safety use remains fully secondary to, and preemptible by, public safety operations. Furthermore, these new rules will optimize public safety use and enable the integration of the latest commercially available technologies, such as 5G. This Report and Order released on January 18, 2023, was corrected by an erratum released on February 22, 2023. The changes made by the erratum are included in this document.

DATES: Effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] .

ADDRESSES: Federal Communications Commission, 45 L St NE, Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: For additional information on this proceeding, contact Jon Markman of the Wireless Telecommunications Bureau, Mobility Division, at (202) 418-7090 or Jonathan.Markman@fcc.gov or Brian Marengo of the Public Safety and Homeland Security Bureau, at (202) 418-0838 or Brian.Marengo@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of Commission's Seventh Report and Order, in WP Docket No. 07-100; FCC 23-3, adopted and released on January 18, 2023. The full text of

this document is available for public inspection online at <https://docs.fcc.gov/public/attachments/FCC-23-3A1.pdf>.

1. In this Seventh Report and Order the Commission creates a comprehensive and coordinated nationwide approach to the 4.9 GHz band, centralizing management in a single Band Manager, while retaining local control over operations conducted by individual public safety licensees. This framework will retain the band's existing status as a locally controlled public safety band, but with more rationalized and coordinated public safety operations on a nationwide level. These expanded operations will encompass both primary public safety use and, subject to coordination by the Band Manager, secondary non-public safety use, the latter of which will be subject to preemption by public safety operations.

2. In particular, the Commission adopts a single, nationwide framework for the 4.9 GHz band, that is centered around a new Band Manager, which will be equipped with additional information about the current public safety use of the band and empowered to work with public safety licensees to ensure efficient use of this spectrum and enable new, non-commercial operations on a secondary, preemptable basis. The Commission stated in this Seventh Report and Order that it believes a nationwide Band Manager will be able to effectively protect the interests of incumbent public safety users by establishing consistent, nationwide rules governing use of the band and providing new opportunities for non-public safety access to the band. It also stated it believes this approach will spur innovation and drive down costs while ensuring full protection for authorized public safety operations. Crucially, the Commission noted that the Band Manager will ensure that local governments can continue to use the band to suit their unique spectrum needs, while promoting the most efficient use of spectrum and creating a consistent and clear band framework nationwide. Therefore, the Commission concluded that designating a nationwide Band Manager to coordinate public safety access and facilitate the introduction of non-public safety services to the band will best serve the public interest.

3. The Commission also stated in this Seventh Report and Order that it would be in the public interest for the Band Manager to be chosen by a selection committee that represents and ensures the involvement of the relevant stakeholders, in particular the public safety community. Once selected, the Band Manager will have three primary responsibilities: (1) frequency coordination; (2) incentivizing the

use of the latest commercially available technologies, including 5G; and (3) facilitating secondary non-public safety use.

4. In this Seventh Report and Order, the Commission also adopted its proposal to collect more granular data on public safety deployments. It will continue using the Universal Licensing System (ULS) as the licensing database for public safety operations in the 4.9 GHz band. Incumbent licensees will have at least one year from the publication of this Seventh Report and Order in the Federal Register to provide the required data in ULS. Nonetheless, the Commission encourages licensees to enter their data into ULS as soon as the Wireless Telecommunications Bureau and the Public Safety and Homeland Security Bureau jointly announce that the ULS is prepared to accept the granular data and OMB has completed its review of any new collection requirements.

5. The Commission also adopted a part 90 formal frequency coordination requirement for public safety applicants seeking to license facilities in the 4.9 GHz band and assigned nationwide authority to the Band Manager to perform the coordination function. Under the part 90 coordination framework, the Band Manager will review applications from public safety entities seeking to license new or modify existing facilities in the 4.9 GHz band before they are filed with the Commission. As frequency coordinator, the Band Manager will perform an analysis to determine if the proposed operation would cause interference to incumbent licensees or previously filed applicants.

6. Alongside its decision to adopt a nationwide Band Manager framework for the 4.9 GHz band, the Commission also amended its rules to allow non-public safety use of the band as authorized by the Band Manager. Specifically, it removed the restriction that 4.9 GHz band operations be in support of public safety, provided that any non-public safety operations must: (1) be authorized by the Band Manager; and (2) fully protect and, where necessary, be subject to preemption by, public safety operations in the band. The Commission emphasized that it will not license non-public safety operators, and licensed operations will remain exclusively in support of public safety.

7. The Commission also stated that it can meet its goal of promoting increased access to the 4.9 GHz band generally, in addition to promoting and protecting public safety use, by allowing non-public safety entities to lease unused spectrum from the public safety licensees through the Band Manager. The Commission noted that this model will ensure that leased operations will be on a non-interference basis,

thereby, fully protecting public safety operations and providing a mechanism to enable preemption by public safety licensees. The Band Manager will evaluate all potential non-public safety operations based on consistent technical parameters and use restrictions deemed necessary to ensure full protection of public safety operations. Allowing the Band Manager to centrally coordinate non-public safety access will promote a standardized set of rules and contractual provisions for such access, which ensure that public safety retains priority and preemption rights. Furthermore, the Commission clarified that leases to non-public safety entities will only be permitted if they are coordinated and approved by the Band Manager, subject to any requirements the Commission adopts pursuant to a Ninth Further Notice of Proposed Rulemaking (Ninth Further Notice).

8. The Commission also stated in this Seventh Report and Order that it will ensure public safety entities have priority access to the 4.9 GHz band through licensing on a primary basis, while non-public safety users will be permitted to operate in the band only on a secondary basis. It also adopted an annual reporting requirement that will allow the Commission to oversee the Band Manager, ensure its activities advance the Commission's stated goals for this band, and provide greater transparency, certainty, and predictability in the 4.9 GHz band. Furthermore, it declined to adopt a spectrum management role for Regional Planning Committees (RPCs) in this band given the lack of necessary funding and resources for RPCs nationwide, lack of expertise in much of the new technology likely to be deployed in the band, and lack of consensus in the record that regional planning is consistent with our goal of establishing a nationwide framework for the band.

9. Furthermore, the Commission stated that given the wide variety of uses and potential uses of the band, it believed imposing interoperability standards at this juncture could lead to fewer equipment options thereby potentially stifling innovation and contradicting our goal of reducing equipment costs.

Nonetheless, in this Seventh Report and Order, the Commission adopted a number of technical rule proposals from a Sixth Further Notice to increase utilization of the 4.9 GHz band.

10. Finally, the Commission retained a freeze for all applicants who are not already 4.9 GHz licensees pending resolution of issues raised in a Ninth Further Notice.

PROCEDURAL MATTERS

Paperwork Reduction Act

11. The requirements in Sections 90.175(g)(2) and 90.1207(e)-(f) constitute new or modified collections subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. They will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding. In addition, the Commission notes that, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4), the Commission previously sought, but did not receive, specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. The Commission describes impacts that might affect small businesses, which includes more businesses with fewer than 25 employees, in the Final Regulatory Flexibility Analysis.

Final Regulatory Flexibility Analysis

12. The Regulatory Flexibility Act (RFA) requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that “the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities.” Accordingly, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) concerning the possible impact of the rule changes contained in this *Seventh Report and Order* on small entities. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Eighth Further Notice of Proposed Rulemaking (Eighth FNPRM)* released in October 2021 in this proceeding (86 FR 59934, Nov. 29, 2021). The Commission sought written public comment on the proposals in the *Eighth FNPRM*, including comments on the IRFA.

No comments were filed addressing the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.

Congressional Review Act

13. The Commission will send a copy of the Seventh Report and Order in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, see 5 U.S.C. § 801(a)(1)(A).

FINAL REGULATORY FLEXIBILITY ANALYSIS

14. As required by the Regulatory Flexibility Act of 1980, as amended (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Eighth Further Notice of Proposed Rulemaking (Eighth FNPRM) in October 2021. The Commission sought written public comment on the proposals in the Eighth FNPRM, including comments on the IRFA. No comments were filed addressing the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.

A. Need for, and Objectives of, the Final Rules

15. In the Seventh Report and Order, the Commission takes a number of actions to advance its goals for a comprehensive and integrated approach to the 4.9 GHz band which emphasizes public safety needs while spurring innovation and driving down costs in the band. As an initial matter, the Commission establishes a nationwide Band Manager which will coordinate public safety operations in the band, ensuring protection of public safety operations, and promoting more efficient use of spectrum resources while facilitating non-public safety use of the band through spectrum leasing. The Commission also adopts its proposal to collect more granular data on public safety deployments in the Commission's Universal Licensing System (ULS) and provide incumbent licensees a one-year period to submit the necessary technical detail. Furthermore, the Commission adopts formal frequency coordination procedures for public safety applicants seeking to license new or modify existing facilities in the band and assigns authority to the Band Manager to perform the frequency coordination function. Additionally, the Commission adopts certain technical rules it sought comment on in the Eighth Further Notice to increase use of the band while declining to adopt technical standards to promote interoperability or a spectrum management role for Regional Planning Committees (RPCs). Finally, the Commission retains the freeze for all applicants who are not already 4.9 GHz licensees. Consequently, the rules we adopt in the Seventh

Report and Order further our goal to maximize use of the 4.9 GHz band to support public safety while opening the door for limited non-public safety use and a more robust equipment market.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

16. There were no comments filed that specifically addressed the proposed rules and policies presented in the IRFA.

C. Response to Comments by Chief Counsel for Advocacy of the Small Business Administration

17. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments.

18. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

19. The RFA directs agencies to provide a description of, and where feasible, an estimate of the number of small entities that may be affected by the rules adopted herein. The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.” In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act. A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).

20. Small Businesses, Small Organizations, Small Governmental Jurisdictions. Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein. First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA’s Office of Advocacy, in general a small business is an independent

business having fewer than 500 employees. These types of small businesses represent 99.9% of all businesses in the United States which translates to 32.5 million businesses.

21. Next, the type of small entity described as a “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.” The Internal Revenue Service (IRS) uses a revenue benchmark of \$50,000 or less to delineate its annual electronic filing requirements for small exempt organizations. Nationwide, for tax year 2020, there were approximately 447,689 small exempt organizations in the U.S. reporting revenues of \$50,000 or less according to the registration and tax data for exempt organizations available from the IRS.

22. Finally, the small entity described as a “small governmental jurisdiction” is defined generally as “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.” U.S. Census Bureau data from the 2017 Census of Governments indicate that there were 90,075 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States. Of this number there were 36,931 general purpose governments (county , municipal and town or township) with populations of less than 50,000 and 12,040 special purpose governments - independent school districts with enrollment populations of less than 50,000. Accordingly, based on the 2017 U.S. Census of Governments data, we estimate that at least 48,971 entities fall into the category of “small governmental jurisdictions.”

23. Frequency Coordinators. Frequency coordinators are entities or organizations certified by the Commission to recommend frequencies for use by licensees in the Private Land Mobile Radio Services (PLMR) that will most effectively meet the applicant's needs while minimizing interference to licensees already operating within a given frequency band. Neither the Commission nor the SBA have developed a small business size standard specifically applicable to spectrum frequency coordinators. Business Associations which comprises establishments primarily engaged in promoting the business interests of their member, is the closest applicable industry with a SBA small business size standard.

24. The SBA small business size standard for Business Associations classifies firms with annual receipts of \$8 million or less as small. For this industry, U.S. Census Bureau data for 2017 show that there were 14,540 firms that operated for the entire year. Of these firms, 11,215 had revenue of less than \$5 million. Based on this data, the majority of firms in the Business Associations industry can be

considered small. However, the Business Associations industry is very broad and does not include specific figures for firms that are engaged in frequency coordination. Thus, the Commission is unable to ascertain exactly how many of the frequency coordinators are classified as small entities under the SBA size standard. According to Commission data, there are 13 entities certified to perform frequency coordination functions under Part 90 of the Commission's rules. For purposes of this FRFA the Commission estimates that a majority of the 13 FCC-certified frequency coordinators are small

25. Private Land Mobile Radio Licensees. Private land mobile radio (PLMR) systems serve an essential role in a vast range of industrial, business, land transportation, and public safety activities. Companies of all sizes operating in all U.S. business categories use these radios. Wireless Telecommunications Carriers (except Satellite) which encompasses business entities engaged in radiotelephone communications, is the closest industry with an SBA small business size standard applicable to these services. The SBA small size standard for this industry classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that there were 2,893 firms that operated in this industry for the entire year. Of this number, 2,837 firms employed fewer than 250 employees. Thus under the SBA size standard, the Commission estimates licensees in this industry can be considered small.

26. Based on Commission data as of December 14, 2021, there are approximately 387,370 active PLMR licenses. Active PLMR licenses include 3,577 licenses in the 4.9 GHz band; 19,011 licenses in the 800 MHz band; and 2,716 licenses in the 900 MHz band. Since the Commission does not collect data on the number of employees for licensees providing these services, at this time we are not able to estimate the number of licensees with active licenses that would qualify as small under the SBA's small business size standard. Nevertheless, the Commission believes that a substantial number of PLMR licensees are small entities.

27. Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing. This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.

The SBA small business size standard for this industry classifies businesses having 1,250 employees or less as small. U.S. Census Bureau data for 2017 show that there were 656 firms in this industry that operated for the entire year. Of this number, 624 firms had fewer than 250 employees. Thus, under the SBA size standard, the majority of firms in this industry can be considered small.

28. Wireless Telecommunications Carriers (except Satellite). This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services. The SBA size standard for this industry classifies a business as small if it has 1,500 or fewer employees. U.S. Census Bureau data for 2017 show that there were 2,893 firms in this industry that operated for the entire year. Of that number, 2,837 firms employed fewer than 250 employees. Additionally, based on Commission data in the 2021 Universal Service Monitoring Report, as of December 31, 2020, there were 797 providers that reported they were engaged in the provision of wireless services. Of these providers, the Commission estimates that 715 providers have 1,500 or fewer employees. Consequently, using the SBA's small business size standard, most of these providers can be considered small entities.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

29. Band Manager. In the Seventh Report and Order, the Commission adopted a single, nationwide framework for the 4.9 GHz band, that is centered around a new Band Manager, which will be equipped with additional information about the current public safety use of the band and empowered to work with public safety licensees to ensure efficient use of this spectrum and enable new, non-commercial operations on a secondary, preemptable basis. Once selected, the Band Manager will have three primary responsibilities: (1) frequency coordination; (2) incentivizing the use of the latest commercially available technologies, including 5G; and (3) facilitating secondary non-public safety use.

30. Licensing Database. In the Seventh Report and Order, the Commission adopts a requirement to collect more granular data on public safety deployments in ULS. We require small and other incumbent licensees and future applicants to supply complete microwave path data for fixed links, and to license base stations (currently authorized under the geographic license scheme) on a site-by-site basis.

Specifically, we require applicants for and current licensees of point-to-point (P-P), point-to-multipoint (P-MP), and fixed receivers to provide the following information: transmitter and receiver antenna coordinates, azimuth (direction), polarization, beamwidth, physical dimensions, gain, and height above ground, as well as transmit details such as power, channel, bandwidth, and emissions. These requirements are consistent with existing Commission microwave radio service rules. We require applicants for and current licensees of base/mobile operations to provide the following information: coordinates (base), height above average terrain (base), number of units (mobile), mobile area of operation, power, channels, and emissions. These requirements are consistent with existing Commission private land mobile radio service rules.

31. The Commission directed the Public Safety and Homeland Security Bureau and the Wireless Telecommunications Bureau to make necessary enhancements to ULS and announce by public notice when ULS is prepared to accept more granular data on public safety operations in the 4.9 GHz band. Incumbent licensees and future applicants seeking to license point-to-point, point-to-multi-point, and fixed receivers as well as base/mobile, mobile-only or temporary fixed operations are required to use FCC Form 601. There will not be any application fees associated with this information collection for public safety entities because they are exempt from application fees pursuant to 47 CFR § 1.1116(b).

32. The Seventh Report and Order gives incumbent geographic licensees one year to identify and submit the necessary technical data into the ULS, including P-P links, P-MP hubs, fixed receivers, base stations, and mobiles that are not currently licensed site-by-site. We believe that collecting this data will improve the level of interference protection licensees receive in the band; and will create a more predictable and transparent spectrum environment for any current and future users of the band, including potential non-public safety users. The Commission estimates the average burden for each applicant completing FCC Form 601 and associated schedules to be 1.25 hours, which includes “the time to read the instructions, look through existing records, gather and maintain required data, and actually complete and review the form or response.”

33. Frequency Coordination. In the Seventh Report and Order, the Commission adopts a part 90 formal frequency coordination requirement for public safety applicants seeking to license facilities in the 4.9 GHz band and assigns nationwide authority to the Band Manager to perform the coordination

function. Specifically, the Band Manager will review applications from public safety entities seeking to license facilities in the 4.9 GHz band before they are filed with the Commission. It will perform an interference analysis and recommend to applicants the most appropriate channel(s), bandwidth, operating power, area of operation (if mobile or temporary fixed operation is requested), or any other technical criteria which promotes robust use of the band while minimizing interference to incumbent licensees. Furthermore, once a Band Manager is in place, all applications filed with the Commission via ULS which seek to license new facilities or modify existing facilities in the 4.9 GHz band must include a showing of frequency coordination by the Band Manager. Finally, we allow the Band Manager to outsource the interference analysis portion of its frequency coordination duties to third parties.

34. Non-Public Safety Use of the Band. We amended our rules in the Seventh Report and Order to allow non-public safety use of the band by small and other non-public safety operators as authorized by the Band Manager. Non-public safety operations are required to fully protect and, when necessary, abide by preemption rules regarding the public safety operations which will remain the primary use of the band. Non-public safety operators will not be licensed. Licensed operations will remain exclusively in support of public safety. Further, the Band Manager will centrally coordinate non-public safety access and will create a standardized set of rules and contractual provisions for such access by small and other non-public safety operators, which will ensure that public safety retains priority and preemption rights.

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered.

35. The RFA requires an agency to provide, “a description of the steps the agency has taken to minimize the significant economic impact on small entities . . . including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.”

36. The Commission’s actions in the Seventh Report and Order require small and other public safety incumbents and future applicants for the 4.9 GHz band to submit more granular data on FCC Form 601, however, the economic impact will be minimized since, as noted above, there aren’t any application fees associated with filing this information in the ULS. We have also taken steps to minimize the burden of

submitting the data by collecting the technical information on forms which licensees in the public safety community are already familiar with because they use these same forms to file license applications in other frequency bands. Furthermore, we provide small and other incumbent licensees a one-year period to submit the necessary technical details into the ULS. As we note in the Seventh Report and Order, collecting the additional technical data on public safety operations will benefit public safety licensees operating in the band because it will improve interference protection and give public safety licensees more confidence in the band without adding a significant burden on licensees or applicants to submit the data.

37. While small and other public safety applicants seeking to license facilities in the 4.9 GHz band will be subject to formal frequency coordination procedures, the economic impact will be minimized since we adopt a frequency coordination process which public safety licensees operating PLMR facilities in other frequency bands are familiar. Once in place, the formal frequency coordination process will ensure the efficient assignment and use of spectrum by public safety licensees while minimizing interference to incumbent public safety licensees. Consequently, the frequency coordination process will improve interference protection and give public safety licensees more confidence in the band without adding a significant burden on applicants.

38. The Commission considered but declined to adopt a more active form of frequency coordination for public safety operations in the 4.9 GHz band, such as the automated frequency coordination in the 6 GHz band or the spectrum access system that facilitates dynamic spectrum sharing in the Citizens Broadband Radio Service (CBRS). No comments were filed specifically addressing the costs associated with more active forms of frequency coordination, both in terms of setup and implementation going forward, compared to traditional part 90 frequency coordination. Thus, given the lack of record on costs associated with more active forms of frequency coordination, and the likelihood of considerable disruption to small and other incumbent licensees caused by the need to upgrade or replace all of their equipment currently in use, the Commission determined the public interest is best served by adopting the

part 90 frequency coordination framework which does not require any modification of or replacement to equipment currently in use in the band

39. In the Seventh Report and Order we also declined to adopt a spectrum management role at 4.9 GHz for RPCs given the lack of necessary funding and resources for RPCs nationwide, the lack of expertise in the types of technology likely to be deployed in the band, and a lack of consensus in the record that regional planning is consistent with our goal of establishing a national framework for the band. This decision imposes zero burdens and costs and thus imposes no significant economic impact on RPCs and the NRPC, all of which we estimate to be small entities.

40. Further, we believe our decision to allow small and other non-public safety operators use of the 4.9 GHz band as detailed in the Seventh Report and Order will provide economic benefits for small entities and strikes the proper balance between allowing localized control of 4.9 GHz band operations by public safety licensees and reducing interference, while also ensuring consistent, nationwide rules that will promote overall spectral efficiency, foster innovation, and drive down equipment costs.

41. Finally, the Commission also considered but declined to: (1) impose an interoperability standard in light of the wide variety of uses and potential uses of the band, imposing such standards at this juncture could lead to fewer equipment options thereby potentially stifling innovation and contradicting our goal of reducing equipment costs; (2) adopt our proposal to limit temporary P-P operations to thirty days maximum over a given path over a one-year period because such a limitation would limit flexibility in the band, and (3) adopt our proposal to require a minimum antenna gain for P-P antennas because commercially available antennas would be rendered non-compliant such a limitation could inhibit development of a robust and affordable equipment market for the band that leverages commercially available antennas and technologies.

G. Report to Congress

42. The Commission will send a copy of the Seventh Report and Order and Ninth Further Notice, including this FRFA, in a report to Congress pursuant to the Congressional Review Act. In addition, the Commission will send a copy of the Seventh Report and Order and Ninth Further Notice, including this

FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the Seventh Report and Order and Ninth Further Notice, and FRFA (or summaries thereof) will also be published in the Federal Register.

ORDERING CLAUSES

43. Accordingly, **IT IS ORDERED** that, pursuant to the authority found in sections 4(i), 302, 303(b), 303(f), 303(g), 303(r), 309(j), 316, and 405 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 302a, 303(b), 303(f), 303(g), 303(r), 309(j), 316, and 405, this Seventh Report and Order and Ninth Further Notice of Proposed Rulemaking **IS HEREBY ADOPTED**.

44. **IT IS FURTHER ORDERED** that this Report and Order **SHALL BE EFFECTIVE** 30 days after publication in the Federal Register. Compliance with section 90.175(g)(2) and section 90.1207(e)-(f) of the Commission's rules, 47 CFR § 90.175(g)(2) and 47 CFR § 90.1207(e)-(f), which may contain new or modified information collection requirements, will not be required until the date specified in the Public Notice to be issued by the Public Safety and Homeland Security Bureau and the Wireless Telecommunications Bureau announcing that the Office of Management and Budget has completed review of any information collection requirements associated with this Report and Order or that they have determined such review is not required, which date shall be no earlier than one year after the publication of this Report and Order in the Federal Register. The Commission directs the Public Safety and Homeland Security Bureau and the Wireless Telecommunications Bureau to announce the compliance date for section 90.175(g)(2) and section 90.1207(e)-(f) by subsequent Public Notice and to cause section 90.175 and section 90.1207 to be revised accordingly.

45. **IT IS FURTHER ORDERED** that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Seventh Report and Order,

including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR Part 90

Private Land Mobile Radio Services.

FEDERAL COMMUNICATIONS COMMISSION.

Marlene Dortch,

Secretary.

Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 90 as follows:

PART 90 – PRIVATE LAND MOBILE RADIO SERVICES

1. The authority citation for part 90 continues to read as follows:

AUTHORITY: 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7), 1401-1473.

2. Amend § 90.155 by revising paragraph (a) to read as follows:

§ 90.155 Time in which station must be placed in operation.

(a) All stations authorized under this part, except as provided in §§ 90.528, 90.529, 90.629, 90.631(f), 90.665, and 90.685 must be placed in operation within twelve (12) months from the date of grant or the authorization cancels automatically and must be returned to the Commission.

* * * * *

3. Amend § 90.175 by revising paragraph (g) and removing and reserving paragraph (j)(22).

The revision reads as follows:

§ 90.175 Frequency coordinator requirements.

* * * * *

(g) *For frequencies between 1427-1432 MHz and 4940-4990 MHz:* A statement is required as follows.

(1) *For frequencies between 1427-1432 MHz:* A statement is required from the coordinator recommending the most appropriate frequency, operating power and area of operation in accordance with the requirements of § 90.259(b).

(2) *For frequencies between 4940-4990 MHz:* A statement is required from the nationwide band manager recommending the most appropriate channel(s), bandwidth, operating power, and any other technical parameter which promotes robust and efficient use of the band while minimizing interference based on the standard for harmful interference specified in § 90.1211(a).

(3) *Compliance date.* Paragraph (g)(2) of this section may contain information collection and/or recordkeeping requirements. Compliance with paragraph (g)(2) will not be required until this paragraph (g)(3) is removed or contains a compliance date, which will not occur until the date specified in a final rule published by the FCC announcing that the Office of Management and Budget has completed review of any information collection requirements associated with paragraph (g)(2) of this section or that they have determined such review is not required, which date shall be no earlier than [INSERT date 1 YEAR after DATE OF PUBLICATION IN THE FEDERAL REGISTER]..

* * * * *

4. Amend § 90.1207 by revising paragraph (d) and adding paragraphs (e), (f), and (g) to read as follows:

§ 90.1207 Licensing.

* * * * *

(d) Permanent fixed point-to-point and point-to-multipoint stations in the 4940-4990 MHz band must be licensed individually on a site-by-site basis. Such fixed stations are accorded primary status. Permanent fixed point-to-point and point-to-multipoint stations must use directional antennas with gains greater than 9 dBi.

(e) Applications for license in the 4940-4990 MHz band must include the following technical information.

(1) The license for base/mobile, mobile-only or temporary fixed (1 year or less) stations will specify, among other parameters, the following technical information:

(i) Coordinates (base).

(ii) Antenna height-to-tip (base and temporary fixed).

(iii) Antenna height above average terrain (base).

(iv) Center frequency, emission designator, and ERP.

(v) Number of units (mobile and temporary fixed).

(vi) Area of operation (mobile and temporary fixed), which shall be limited to the geographic area encompassing the legal jurisdiction of the licensee or, in case of a nongovernmental organization, the legal jurisdiction of the state or local governmental entity supporting the nongovernmental organization. However, applicants may define their areas of operation outside of their areas of legal jurisdiction to assist public safety operations with the permission of the jurisdiction(s) in which the mobile and/or temporary fixed stations are to be operated.

(2) The license for permanent fixed point-to-point, point-to-multipoint and fixed receiver stations must include, among other parameters, the following technical information:

(i) Transmitting station coordinates.

(ii) Frequencies and polarizations.

(iii) For the transmitting equipment, the tolerance, effective isotropic radiated power, emission designator, and type of modulation (digital).

(iv) For the transmitting antenna(s), the model, gain, antenna center line height(s) above ground level and ground elevation above mean sea level.

(v) Receiving station coordinates.

(vi) For the receiving antenna(s), the model, gain, antenna center line height(s) above ground level and ground elevation above mean sea level.

(vii) Path azimuth and distance.

(f) Licensees holding active authorizations for the 4940-4990 MHz band on [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] shall file the complete site-by-site information described in paragraph (e) of this section for their existing radio systems in the Commission's Universal Licensing System by the compliance date specified in paragraph (g) of this section.

(g) Paragraphs (e) and (f) of this section may contain information collection and/or recordkeeping requirements. Compliance with paragraphs (e) and (f) will not be required until this paragraph (g) is removed or contains a compliance date, which will not occur until the date specified in a final rule published by the FCC announcing that the Office of Management and Budget has completed review of any information collection requirements associated with paragraphs (e) and (f) of this section or that they have determined such review is not required, which date shall be no earlier than [INSERT DATE 1 YEAR AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

5. Amend § 90.1209 by revising paragraph (d) to read as follows:

§ 90.1209 Policies governing the use of the 4940-4990 MHz band.

* * * * *

(d) Stations must be placed into operation within twelve (12) months from the date of grant in accordance with § 90.155. Licensees of temporary fixed stations must place at least one such station in operation within twelve months of license grant.

6. Amend § 90.1213 by revising paragraphs (a) introductory text and (b) to read as follows:

§ 90.1213 Band plan.

(a) The following table lists center frequencies for channels in the 4940-4990 MHz band. Channel numbers 1 through 5 and 14 through 18 are 1 MHz bandwidth channels, and channel numbers 6 through 13 are 5 MHz bandwidth channels.

* * * * *

(b) The channels listed in the table in paragraph (a) of this section may be aggregated in any manner up to 50 MHz for wider bandwidth operation. Nonetheless, applicants should request no more bandwidth than necessary for a particular use.

7. Amend § 90.1215 by revising the introductory text and paragraph (a)(1) and adding paragraph (f) to read as follows:

§ 90.1215 Power limits.

Except as provided in paragraph (f) of this section, the transmitting power of stations operating in the 4940-4990 MHz band must not exceed the maximum limits in this section.

(a)(1) For base, mobile, and temporary fixed operations, the maximum conducted output power must not exceed:

Table 1 to Paragraph (a)(1)

Channel bandwidth (MHz)	Low power maximum conducted output power (dBm)	High power maximum conducted output power (dBm)
1	7	20
5	14	27
10	17	30
15	18.8	31.8
20	20	33
30	21.8	34.8
40	23	36
50	24	37

* * * * *

(f) The transmitting power of permanent fixed point-to-point and point-to-multipoint stations operating in the 4940-4990 MHz band must not exceed the maximum limits in this paragraph (f). Moreover, applicants should request no more power than necessary for a particular use.

(1) The maximum equivalent isotropically radiated power (EIRP), as referenced to an isotropic radiator, must not exceed 55 dBW (85 dBm).

(2) For path lengths shorter than 17 kilometers, the EIRP shall not exceed the value derived from the following equation: $\text{New EIRP limit} = 55 \text{ dBW} - 40 \cdot \log(17/B) \text{ dBW}$, where B = the actual path length in kilometers.

8. Add § 90.1217 to subpart Y to read as follows:

§ 90.1217 4.9 GHz Band Manager.

The 4.9 GHz Band Manager will have the following three primary responsibilities:

(a) Frequency coordination for public safety applications;

- (b) Incentivizing the use of the latest commercially available technologies, including 5G; and
- (c) Facilitating non-public safety use of the 4.9 GHz band.

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